

780 CMR 9307 ENERGY CONSERVATION PROVISIONS

9307.1 General: Energy efficiency provisions for existing one and two family dwellings shall comply with the International Energy Code (IEEC) 2006 with the 2006/2007 Supplement and with the Massachusetts amendments to the IEEC as provided in 780 CMR 61.00.

9307.1 General. ~~780 CMR 9307 establishes the energy provisions for existing one and two family buildings. 780 CMR 9307 intends to capture opportunities to make incremental improvements in~~
~~780 CMR: STATE BOARD OF BUILDING REGULATIONS AND STANDARDS~~
~~THE MASSACHUSETTS STATE BUILDING CODE~~

~~870 780 CMR—Seventh Edition (DRAFT)~~
energy conservation to the fullest extent practical during renovations of existing buildings, their mechanical systems, or portions thereof. In general, these provisions do not require destructive work to be performed in order to capture energy conservation improvements, but instead they intend to take advantage of opportunities that are presented during the normal course of work to an existing building.

9307.2 Compliance. Portions of a building envelope; heating, air conditioning, or service water heating system; and equipment that is being replaced or modified shall comply with the applicable requirements of 780 CMR 9307 in one of three ways.

- ~~1. The individual components and systems of the existing building or portions thereof that are being replaced or modified shall comply with the applicable requirements of 780 CMR 9307 as provided below; or~~
- ~~2. The individual components and systems of the existing building or portions thereof that are being replaced or modified shall comply with the applicable requirements of 780 CMR 61.00; or~~
- ~~3. Where more than one component of the existing building is being replaced, an annual energy usage analysis may be performed to demonstrate that the energy consumption of the building as modified will not exceed what the building would consume if each modified component complied with the requirements of 780CMR 9307.2.1. Such analysis must be performed by a professional registered engineer or~~

registered architect, and documentation shall demonstrate that the analysis used is consistent with ASHRAE calculation procedures and accepted engineering practices.

9307.3 Exempt Buildings. Refer to 780 CMR 6101.3.1 for exempt buildings.

9307.4 Low-rise Residential Building Requirements.

9307.4.1 Insulation Requirements.

9307.4.1.1 Walls. When envelope walls are exposed during the course of work, they must be insulated by completely filling the framing cavity (behind furred or framed surfaces) with insulation of least R-3 per inch. However, insulation greater than R-19 is not required.

9307.4.1.2 Roof/Ceilings.

1. When enclosed (“cathedral”) roof/ceiling assemblies are exposed during the course of work, either from the interior or exterior, they must be insulated to completely fill the cavity between framing members with insulation of at least R-3 per inch.

Ventilation must meet the requirements of 780 CMR 5806, as applicable.

2. When attic spaces are insulated during the course of work, they must be insulated to at least R-30. Ventilation must meet the requirements of 780 CMR 5806, as applicable.

9307.4.1.3 Floor Assemblies. When floor assemblies that are part of the envelope are insulated during the course of work, they must be insulated to at least R-19.

9307.4.1.4 Slab Floors. When slab floors that are part of the envelope are exposed during the course of work, they must be insulated to at least R-5.

Exception: Perimeter and slab insulation are not required if destructive work, beyond the scope of the proposed alteration, is necessary to provide them.

9307.5 Moisture Control and Air Leakage.

9307.5.1 Moisture Control. When new insulation is installed under the requirements of 780 CMR 9307, vapor retarders per 780 CMR 6106.2.1 shall be provided.

9307.5.2 Fenestration and Doors. New fenestration and new exterior doors shall meet the requirements of 780 CMR 6106.3.2. Existing exterior doors, when re-used, shall be equipped with weather seals and any newly installed interior doors or scuttles separating an unconditioned space (attics, attached garages) from conditioned space, likewise shall be equipped with weather seals and satisfy applicable requirements of 780 CMR 6106.3.2.

9307.5.3 Envelope Gaps and Cavities. All gaps and cavities between rough framing and door and window heads, jambs and sills exposed during the course of work shall be made air tight, filled with insulation and covered with a vapor retarder (also see 780 CMR 6106.2). Sealing materials spanning joints between construction materials shall allow for expansion and contraction of the construction materials. All new penetrations through the building envelope shall be made air tight.

9307.5.4 Fenestration. (Also see 780 CMR 9304.5.1)

9307.5.4.1 Windows, Skylights and glass doors. When replacing existing glazed fenestration or adding new glazed fenestration to the envelope, the maximum allowable U-value shall be 0.44, and products shall be NFRC listed/labeled.

Exceptions:

1. In the repair of broken windows, broken doors or broken skylights, likekind replacement shall be allowed, but the complete replacement of windows, doors or skylights in an existing building shall require compliance with the applicable requirements of 780 CMR 9307.6.3 and 9307.6.4

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2. Criteria for NFRC listing/labeling and maximum U-0.44 are not required if the existing window(s) are true divided light (i.e., single thickness multipane sashes

with structural muntin bars) and being replaced with “like kind” units. This exception additionally requires that a storm window be installed over the replacement window. The storm window may be installed internally, externally or integrated with the primary window.

3. Criteria for NFRC listing/labeling and maximum U-0.44 are not required for basement windows with a unit height up to 24 inches (610 mm), whether or not the basement is a e